Listing of the Claims

1. (Previously Presented) A body insertable prosthesis, including:

a body insertable tubular structure including at least one flexible strand selectively formed to provide a plurality of discrete first tubular segments and a plurality of discrete second tubular segments in an alternating sequence;

wherein the first tubular segments and the second tubular segments have respective first and second nominal diameters when the tubular structure is in a relaxed state and wherein the tubular structure is radially compressible against an elastic restoring force to a predetermined diameter;

wherein the at least one flexible strand further is selectively configured to provide first axial stiffness levels and first radial force levels along the first tubular segments, and second axial stiffness levels and second radial force levels along the second tubular segments, when said tubular structure is radially compressed to the predetermined diameter; and

wherein the first axial stiffness levels are higher than the second axial stiffness levels, whereby the second tubular segments, as compared to the first tubular segments, are adapted to more readily conform to a curvature of a body lumen in which the tubular structure is deployed.

2. (Previously Presented) The prosthesis of claim 1 wherein:

all of the first axial stiffness levels are substantially the same.

3. (Previously Presented) The prosthesis of claim 1 wherein:

all of the second axial stiffness levels are substantially the same.

4. (Cancelled)

5. (Previously Presented) The prosthesis of claim 1 wherein:

the at least one flexible strand includes a plurality of flexible strands helically wound in opposite directions to form multiple strand crossings defining strand crossing angles, including respective first and second strand crossing angles along the first and second tubular segments, respectively.

6. (Previously Presented) The prosthesis of claim 5 wherein:

the second strand crossing angle is larger than the first strand crossing angle.

7. (Previously Presented) The prosthesis of claim 5 wherein:

the second strand crossing angle is substantially the same as the first strand crossing angle.

8. (Previously Presented) The prosthesis of claim 1 wherein:

the second radial force levels are higher than the first radial force levels.

9-13. (Cancelled)

14. (Previously Presented) The prosthesis of claim 1 wherein:

the tubular structure consists essentially of the alternating sequence of the first tubular segments and the second tubular segments.

15. (Previously Presented) The prosthesis of claim 14 wherein:

each of the tubular segments of the alternating sequence has an axial length of at least about 1 cm.

16. (Cancelled)

17. (Previously Presented) The prosthesis of claim 1 wherein:

the first and second nominal diameters are substantially the same.

18-24. (Cancelled)

25. (Previously Presented) A prosthesis insertable into body lumens with natural curvature, including:

a body insertable tubular wall incorporating a plurality of first tubular wall segments and a plurality of second tubular wall segments in an alternating sequence, the first and second tubular wall segments having respective nominal diameters when in a relaxed state and being radially compressible against an elastic restoring force to a predetermined diameter;

wherein the first and second wall segments when radially compressed to the predetermined diameter have respective axial stiffness levels, with the first tubular wall segments

having relatively high first axial stiffness levels, and with the second tubular wall segments having second axial stiffness levels lower than the first axial stiffness levels, whereby the second tubular wall segments, as compared to the first tubular wall segments, are adapted to more readily conform to a curvature of a body lumen in which the tubular wall is deployed.

26-51. (Cancelled)

52. (Previously Presented) The prosthesis of claim 25 wherein:

all of the first axial stiffness levels are substantially the same.

53. (Previously Presented) The prosthesis of claim 25 wherein:

all of the second axial stiffness levels are substantially the same.

54. (Previously Presented) The prosthesis of claim 25 wherein:

the first and second tubular wall segments when radially compressed to the predetermined diameter have respective radial force levels, with the first tubular well segments having relatively low first radial force levels, and with the second tubular wall segments having second radial force levels higher than the first radial force levels.

55. (Previously Presented) The prosthesis of claim 54 wherein:

all of the first radial force levels are substantially the same, and all of the second radial force levels are substantially the same.

56. (Previously Presented) The prosthesis of claim 25 wherein:

the body insertable tubular wall is composed of at least one flexible strand.

57. (Previously Presented) The prosthesis of claim 56 wherein:

the at least one flexible strand includes a plurality of flexible strands helically wound in opposite directions to form multiple strand crossings defining strand crossing angles.

58. (Previously Presented) The prosthesis of claim 57 wherein:

the strand crossing angles along the second tubular wall segments are larger than the strand crossing angles along the first tubular wall segments.

59. (Previously Presented) The prosthesis of claim 57 wherein:

the strand crossing angles along the first tubular wall segments are substantially the same, and the strand crossing angles along the second tubular wall segments are substantially the same.

60. (Previously Presented) The prosthesis of claim 57 wherein:

the nominal diameters of the second tubular wall segments are larger than the nominal diameters of the first tubular wall segments.

61. (Previously Presented) The prosthesis of claim 60 wherein:

the nominal diameters of the second tubular wall segments are substantially the same, and the nominal diameters of the first tubular wall segments are substantially the same.

62. (Previously Presented) The prosthesis of claim 57 wherein:

the strand crossing angles along the second tubular wall segments are substantially the same as the strand crossing angles along the first tubular wall segments.

63. (Previously Presented) The prosthesis of claim 56 wherein:

the at least one flexible strand incorporates a first number of filaments along each of the first tubular wall segments and a second number of filaments along each of the second tubular wall segments, wherein the second number is less than the first number.

64. (Previously Presented) The prosthesis of claim 63 wherein:

the filaments along the first tubular wall segments include first and second different types of filaments.

65. (Previously Presented) The prosthesis of claim 64 wherein:

the first filament type is selected from the group of filament types consisting of: metallic filaments and biostable non-metallic filaments; and the second filament type is selected from the group of filament types consisting of: metallic filaments, biostable non-metallic filaments, and biodegradable filaments.

66. (Previously Presented) The prosthesis of claim 65 wherein:

the second type of filament is selected from the group consisting of bioabsorbable filaments.

67. (Previously Presented) The prosthesis of claim 56 wherein:

the at least one flexible strand includes a plurality of biostable filaments, and a plurality of bioabsorbable filaments.

68. (Previously Presented) The prosthesis of claim 56 wherein:

the at least one flexible strand includes a first set of flexible filaments spanning substantially the length of the tubular structure and a second set of flexible filaments extending only along the first tubular wall segments.

69. (Previously Presented) The prosthesis of claim 56 wherein:

the at least one strand comprises a cable incorporating at least two filaments along the first tubular wall segments.

70. (Previously Presented) The prosthesis of claim 25 wherein:

the tubular wall segments have respective radial force levels when radially compressed to the predetermined diameter, and the radial force levels of the first tubular wall segments are higher than the radial force levels of the second tubular wall segments.

71. (Previously Presented) The prosthesis of claim 70 wherein:

all of the first radial force levels are substantially the same, and all of the second radial force levels are substantially the same.

72. (Previously Presented) The prosthesis of claim 25 wherein:

the nominal diameters of the first and second tubular wall segments are substantially the same.

73. (Previously Presented) The prosthesis of claim 25 wherein:

the tubular wall includes end segments at first and second opposite ends thereof, selected from the group of end segments consisting of: two first segments; two second segments; and a first segment and a second segment.

74. (Previously Presented) The prosthesis of claim 25 wherein:

the first and second tubular wall segments along said alternating sequence are adjacent one another.

75. (Previously Presented) The prosthesis of claim 25 wherein:

each of the first and second tubular wall segments has an axial length of at least one centimeter.

76. (New) A body insertable prosthesis, including:

a body insertable tubular structure including a plurality of flexible strands selectively formed to provide a plurality of discrete first tubular segments and a plurality of discrete second tubular segments in an alternating sequence, wherein the flexible strands are helically wound in opposite directions to form multiple strand crossings defining strand crossing angles, including respective first and second strand crossing angles along the first and second tubular segments, respectively, wherein the second strand crossing angle is larger than the first strand crossing angle;

wherein the first tubular segments and the second tubular segments have respective first and second nominal diameters when the tubular structure is in a relaxed state, and the tubular structure is radially compressible against an elastic restoring force to a predetermined diameter;

wherein the at least one flexible strand further is selectively configured to provide first axial stiffness levels and first radial force levels along the first tubular segments, and second axial stiffness levels and second radial force levels along the second tubular segments, when said tubular structure is radially compressed to the predetermined diameter; and

wherein the first axial stiffness levels are higher than the second axial stiffness levels, whereby the second tubular segments, as compared to the first tubular segments, are adapted to more readily conform to a curvature of a body lumen in which the tubular structure is deployed.

77. (New) The prosthesis of claim 76 wherein:

all of the first axial stiffness levels are substantially the same, and all of the second axial stiffness levels are substantially the same.

78. (New) The prosthesis of claim 76 wherein:

the second radial force levels are higher than the first radial force levels.

79. (New) The prosthesis of claim 76 wherein:

all of the first radial force levels are substantially the same, and all of the second radial force levels are substantially the same.

80. (New) The prosthesis of claim 76 wherein:

the first strand crossing angles are substantially the same, and the second strand crossing angles are substantially the same.

81. (New) The prosthesis of claim 76 wherein:

the tubular structure consists essentially of the alternating sequence of the first tubular segments and the second tubular segments.

82. (New) The prosthesis of claim 76 wherein:

the first nominal diameters are the same, and the second nominal diameters are substantially the same.

83. (New) The prosthesis of claim 76 wherein:

the second nominal diameters are larger than the first nominal diameters.

84. (New) A prosthesis insertable into body lumens with natural curvature, including:

a body insertable tubular wall composed of a plurality of flexible strands helically wound in opposite directions to form multiple strand crossings defining strand crossing angles, and further incorporating a plurality of first tubular wall segments and a plurality of second tubular wall segments in an alternating sequence, the first and second tubular wall segments having respective nominal diameters when in a relaxed state and being radially compressible against an elastic restoring force to a predetermined diameter, wherein the strand crossing angles along the second tubular wall segments are larger than the strand crossing angles along the first tubular wall segments;

wherein the first and second wall segments when radially compressed to the predetermined diameter have respective axial stiffness levels, with the first tubular wall segments having relatively high first axial stiffness levels, and with the second tubular wall segments having second axial stiffness levels lower than the first axial stiffness levels, whereby the second

tubular wall segments, as compared to the first tubular wall segments, are adapted to more readily conform to a curvature of a body lumen in which the tubular wall is deployed.

85. (New) The prosthesis of claim 84 wherein:

all of the first axial stiffness levels are substantially the same, and all of the second axial stiffness levels are substantially the same.

86. (New) The prosthesis of claim 84 wherein:

the first and second tubular wall segments when radially compressed to the predetermined diameter have respective radial force levels, with the first tubular wall segments having first radial force levels, and with the second tubular wall segments having second radial force levels.

87. (New) The prosthesis of claim 86 wherein:

the second radial force levels are higher than the first radial force levels.

88. (New) The prosthesis of claim 86 wherein:

all of the first radial force levels are substantially the same, and all of the second radial force levels are substantially the same.

89. (New) The prosthesis of claim 84 wherein:

the strand crossing angles along the first tubular wall segments are substantially the same, and the strand crossing angles along the second tubular wall segments are substantially the same.

90. (New) The prosthesis of claim 84 wherein:

the nominal diameters of the second tubular wall segments are larger than the nominal diameters of the first tubular wall segments.

91. (New) The prosthesis of claim 84 wherein:

the nominal diameters of the second tubular wall segments are substantially the same, and the nominal diameters of the first tubular wall segments are substantially the same.

92. (New) The prosthesis of claim 84 wherein:

the nominal diameters of the first and second tubular wall segments are substantially the same.

93. (New) The prosthesis of claim 84 wherein:

the first and second tubular wall segments along said alternating sequence are adjacent one another.